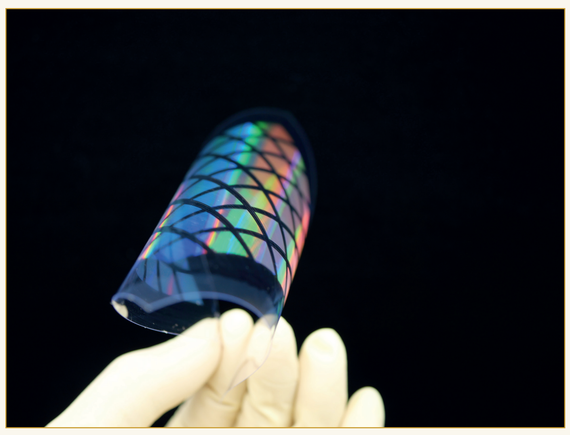
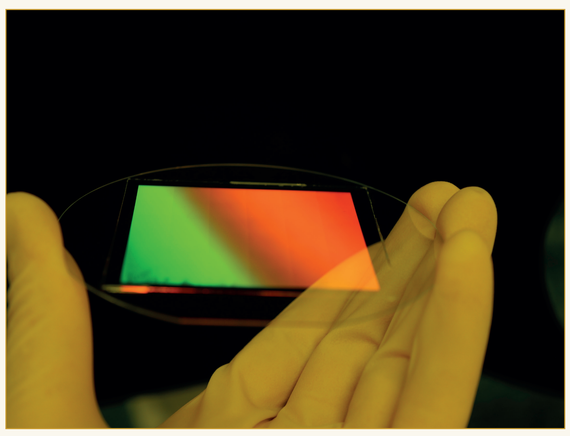
micro resist technology GmbH
Köpenicker Straße 325
12555 Berlin
Germany
Tel.: +49 (0) 30 641670100
Fax: +49 (0) 30 641670200
info@microresist.de
www.microresist.com

OrmoStamp®FF

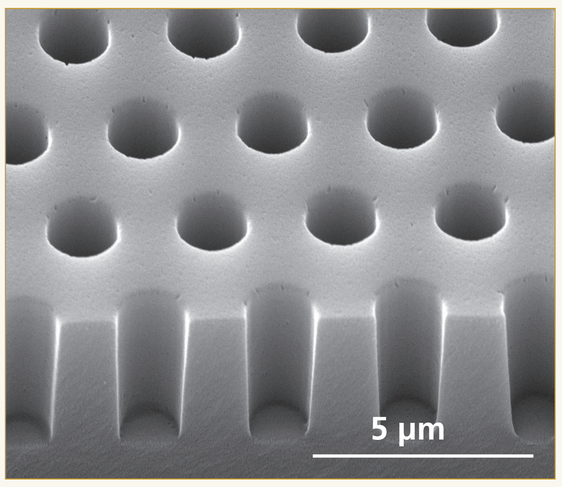
UV-curable Hybrid Polymer for Polymer Working Stamps



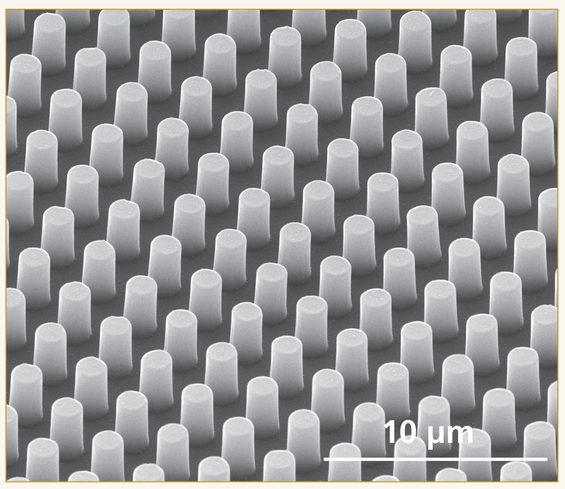
Flexible stamp of OrmoStamp®FF on PVC foil (imprint by Profactor GmbH)



Imprinted OrmoStamp®FF on 4“ glas wafer.



Working stamp from OrmoStamp®FF



Imprinted pillars from OrmoStamp®FF into OrmoComp®

Innovation:

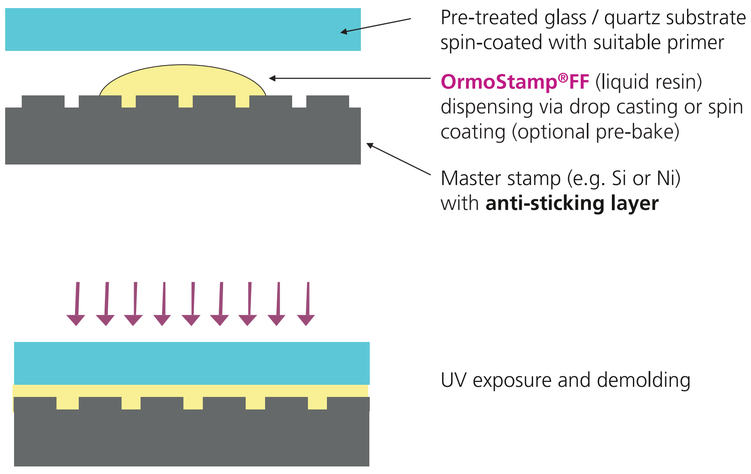
Fluorine-free alternative to established materials.

Applications:

OrmoStamp®FF is a highly transparent material from the hybrid polymer portfolio. This inorganic-organic material provides glass-like transparency in the visible and near-UV. OrmoStamp®FF combines mechanical robustness with flexibility making it an ideal choice as working stamp material. It is suitable as fluorine free hard stamp alternative, for example to quartz, glass or Ni stamps.

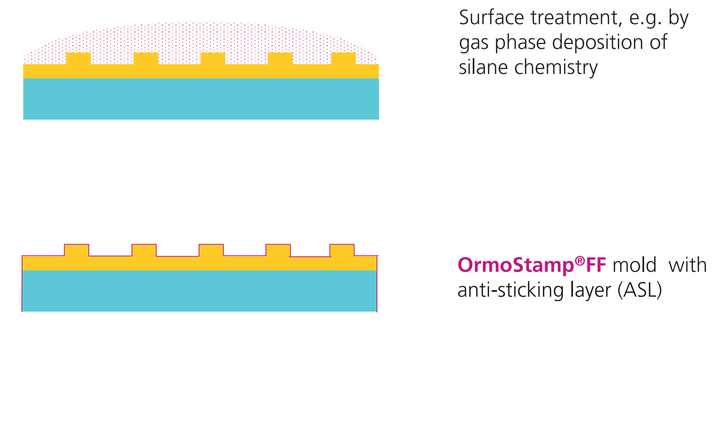
Process flow

Replication of master stamps



Replica of the master stamp with inversed polarity

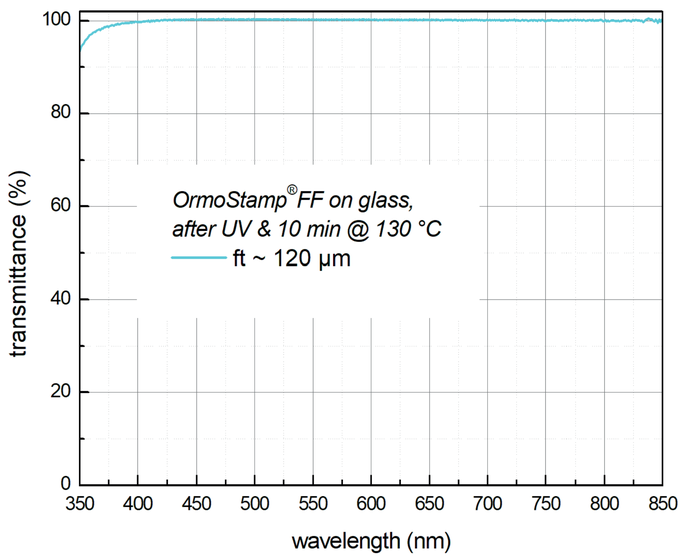
Anti-sticking layer treatment



Unique features:

- Solvent-free, ready to use material
- Processing with standard lithography equipment either broadband or LED (365 nm to 405 nm)
- Applicable on flexible (PET, PC, …) or rigid substrates (Si, glass)
- Silane-based anti-sticking layer treatment is recommended to enhance service life
- Mechanically and thermally stable after UV-curing
- Excellent pattern replication
- Highly transparent for wavelengths from near UV to visible
- Compatible to various resin types

Optical properties



Technical data

(Cured material)

Thermal stability	up to 270 °C (short term)
CTE (20-150 °C)	140 ppm K^{-1}
Shore D Hardness	> 80
Shrinkage (during curing)	~ 6 %
Young‘s modulus	1.8 GPa